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One new and three newly recorded olethreutine moths (Lepidoptera, Tortricidae) from Japan

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Abstract Rhopobota okui Nasu, n. sp., is described from Japan. Bactra (Chiloides) cerata (Meyrick), Eucosma lacteana (Treitschke) and Parepisimia catharota (Meyrick), are newly recorded from Japan.

Key words Bactra (Chiloides) cerata (Meyrick), Eucosma lacteana (Treitschke), Rhopobota okui Nasu, n. sp., Parepisimia catharota (Meyrick), Tortricidae, Japan.

In the course of taxonomic study on Japanese olethreutine moths I have found one new species of *Rhopobota* and three hitherto unrecorded species of *Bactra*, *Eucosma* and *Parepisimia* from Japan. In the present paper I describe the new species and record the three species as new to the moth fauna of Japan, with illustrations of adults and genitalia.

The following acronyms are used for the locations of specimens: FK—Collection of Dr F. Komai, the Osaka University of Arts, Kanan-cho, Japan; TO—Collection of Dr T. Oku, Morioka, Japan; UOP—Collection of the Entomological Laboratory of Osaka Prefecture University, Sakai, Japan. Unless otherwise stated, all other specimens are in my collection.

Bactra (Chiloides) cerata (Meyrick) (Figs 1, 5, 9)

Polychrosis cerata Meyrick, 1909, J. Bombay nat. Hist. Soc. 19: 587.

Bactra cerata: Diakonoff, 1950: 285, pl. 6, fig. 27 (♂ genitalia), pl. 8, fig. 39 (♀ genitalia); Clarke, 1958: 307, pl. 152, figs 1, 1a (adult, ♂ genitalia); Clarke, 1976: 71, fig. 30 (♂ genitalia), pl. 6, fig. f (adult). Bactra (Chiloides) cerata: Diakonoff, 1964: 47, figs 29, 30 (♂ ♀ genitalia); Diakonoff, 1973: 359; Diakonoff, 1982: 74; Kawabe, 1989: 43, fig. 49 (adult); Kawabe et al., 1992: 105.

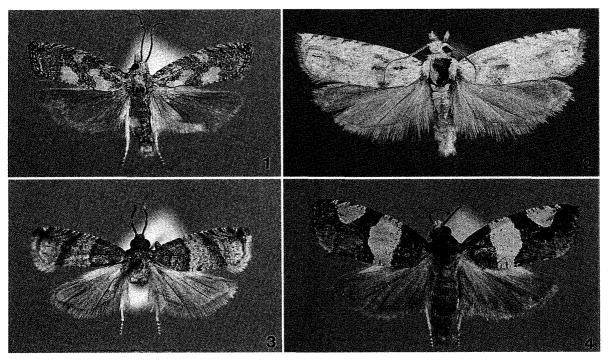
Chiloides cerata: Kuznetzov, 1988: 168, fig. 2-3 (genitalia).

Bactra (Chiloides) cerata insularis Diakonoff, 1964, Zool. Verh. 70: 49, fig. 34 (♀ genitalia).

Diagnosis. This species is a small moth with grayish brown ground color on the forewing (wing expanse 10–12 mm) and characterized by the three or four yellow-brown patches on base to 2/3 of wing (rarely obscure) (Fig. 1). The male and female genitalia are similar to those of some species of the subgenus, but differ in having a spine on the top of aedeagus and not having any cornuti on vesica (Fig. 5).

Material examined. JAPAN. Honshu: Wakayama Pref.: Fujinami, $1 \nearrow 0$, 6. VIII. 1976 (F. Komai leg.), FK. Kyushu: Kagoshima Pref.: Yakushima I., Onoaida, $7 \nearrow 7 ? 0$, 4–9. IX. 1979 (Y. Nasu leg.); Nakanoshima I., 1 ? 0, 27–29. IV. 1990 (Y. Nasu leg.). Ryukyu: Okinawa Pref.: Okinawa I., Yona, $1 \nearrow 0$, 15–18. V. 1998 (T. Ohno leg.). TAIWAN. Hualien Pref.: Hunyea Spa, $1 \nearrow 0$, 31. V–2. VI. 1982 (T. Tanabe leg.), UOP.

Distribution. India (Assam), Sri Lanka, Thailand, Vietnam, Lesser Sunda Is, Fiji, Palau Is, West South New Guinea, Taiwan, Japan (Honshu, Kyushu, Ryukyu). New to Japan. Host-plant. Unknown.



Figs 1-4. Adults. 1. Bactra (Chiloides) cerata (Meyrick), A. 2. Eucosma lacteana (Treitschke), A. 3. Rhopobota okui Nasu, n. sp., A, holotype. 4. Parepisimia catharota (Meyrick), A.

Eucosma lacteana (Treitschke) (Figs 2, 6, 10)

Grapholitha lacteana Treitschke, 1835, Schmett. Eur. 10 (3): 113, 256.

Grapholitha (Semasia) lacteana: Heinemann, 1863: 169.

Grapholitha (Paedisca) lacteana: Wocke, 1871: 252.

Epiblema lacteana: Rebel, 1901: 116; Kennel, 1910: 281, pl. 86, fig. 18 (adult); Kennel, 1921: 558, pl. 21, fig. 27 (adult); Schütze, 1931: 189.

Eucosma (Phaneta) lacteana: Swatschek, 1958: 141; Hannemann, 1961: 132, fig. 260 (♂ genitalia), pl. 13, fig. 20 (adult); Leraut, 1980: 96.

Eucosma (Eucosma) lacteana: Obraztsov, 1968: 7.

Eucosma lacteana: Kuznetzov, 1985: 798; Kuznetzov & Jalava, 1988: 136; Emmet, 1988: 189; Emmet, 1991: 158; Razowski, 1996: 149; Leraut, 1997: 145.

Carpocapsa maritima Westwood & Humphreys, 1845, Br. Moths 2: 138. [Synonymized by Kuznetzov, 1985: 798.]

Phaneta maritima: Pierce & Metcalfe, 1922: 70, pl. 24 (♂♀ genitalia).

Eucosma maritima: Meyrick, 1928: 551; Bradley, 1959: 71, pl. 8, fig. 89 (adult); Kuznetzov, 1975: 431; Kuznetzov, 1976: 104; Palm, 1982: 75; Palm, 1985: 74; Razowski, 1987: 79, pl. 6, fig. 6 (adult), fig. 52 (♂ genitalia), fig. 197 (♀ genitalia).

Eucosma (Phaneta) maritima: Swatschek, 1958: 142; Hannemann, 1961: 133, fig. 263 (♂ genitalia), pl. 15, fig. 23 (adult); Obraztsov, 1968: 15; Bentinck & Diakonoff, 1968: 115, pl. 17, fig. 4 (adult), pl. 68, figs 159a-c (♂ ♀ genitalia); Bradley et al., 1972: 29; Bradley et al., 1979: 9, 184, pl. 37, figs 1, 2 (adult); Leraut, 1980: 96.

Eucosma (Calosetia) maritima: Kuznetzov, 1978: 531, fig. 456-4 (or genitalia), fig. 457-2 (wing).

Semasia maritima: Benander, 1950: 119, pl. 7, fig. 33 (wing), fig. 11g (valva).

Grapholitha candidulana Nolken, 1870, Arb. NatForschVer. Riga (N. F.) 3: 413.

Diagnosis. This species has a slender white forewing with two or three small dark-brown patches (wing expanse 12-14 mm) (Fig. 2). In general appearance, this moth is similar to E.

metzneriana (Treitschke, 1830), but differs from it in having a slender, shorter forewing, obscure dark-brown patches on the forewing, triangular uncus and narrower neck in the male genitalia (Fig. 6), and oblong lamella postvaginalis in the female genitalia (Fig. 10).

Material examined. JAPAN. Hokkaido: Kotoni, $5 \ 3 \ 4 \ 4$, em. 1-14. VIII. 1960 (T. Oku leg.), reared from larvae on flowers and seed-heads of *Artemisia princeps*, TO, $2 \ 3 \ 1 \ 4$, 4-7. VIII. 1961 (T. Oku leg.), $1 \ 3$, 8. X. 1961 (T. Oku leg.). NORWAY. Vang, $1 \ 3$, 28. VII. 1958 (P. K. Nielsen leg.) determined by P. K. Nielsen as *E. maritima*, UOP.

Distribution. Europe, Russia, Mongolia, Japan (Hokkaido). New to Japan.

Host-plant. Compositae: Artemisia absinthium L., A. campestris L., A. maritima L., A. vulgaris L. (Kennel, 1910, 1921; Schütze, 1931; Swatschek, 1958); A. princeps Pamp.

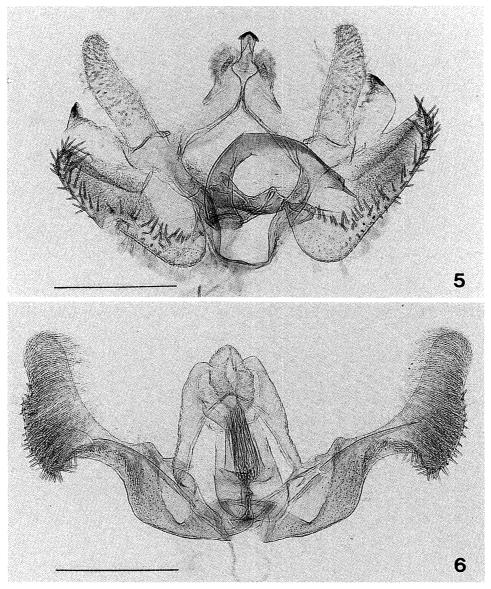
Biological note. The larvae spin together the flowers and seeds of *Artemisia* spp. According to Bradley *et al.* (1979), in September and October the larva feeds on the florets and unripe seeds of *A. maritima*, living in the flower spike and spinning the florets and leaves together to form a silken tube in the British Islands. When fully fed the larva leaves the spinning and constructs a cocoon amongst debris or in the earth, in which it overwinters before pupating. Pupation takes place in the cocoon in June. Adults fly in July and August.

Rhopobota okui Nasu, n. sp. (Figs 3, 7, 11)

Diagnosis. This species is a small moth with olive-brown ground color on the forewing (wing expanse 9–12 mm) and characterized by a whitish median fascia and leaden white ocelloid patch (Fig. 3). The species is superficially similar to *R. kaempferiana* (Oku, 1971), but differs from it in having a shorter forewing, broader median fascia, whitish ocelloid patch (in *kaempferiana* leaden) on the forewing, larger uncus and socius, and a tuft of hooked thick setae on dorsal angle and a process on ventral angle of cucullus in the male genitalia (Fig. 7), and triangular ostium bursae in the female genitalia (Fig. 11).

Adult. Male (Fig. 3). Wing expanse 9–11 mm. Head olive-brown, face whitish. Antenna olive-brown. Labial palpus short, olive-brown, inner surface whitish; anterior end of the second segment and the third segment whitish. Thorax and tegula olive-brown. Forewing elongate, apex round, without costal fold. Ground color olive-brown. Costa olive-brown, with six pairs of whitish strigulae (costal strigulae) from apex to basal 1/3. Outward-oblique leaden streaks originating from each costal strigula; the first three streaks confluent, touching upper part of ocelloid patch; the fourth one gradually broadened, connected to inner lateral band of ocelloid patch. Basal patch indicated by some weak gray streaks, occupying basal 1/4 of wing. Median fascia consisting of two whitish bands, originating from the fifth and sixth costal strigulae, gradually broadened, reaching the middle of dorsum. Ocelloid patch leaden-white, margined laterally with leaden-white transversal bands, containing some dark brown dashes, with a dark brown spot on costal 1/3 of inner edge of the inner lateral band. Cilia brown, olivaceous on apex. Hindwing light grayish brown; cilia concolorous with wing.

Male genitalia (Fig. 7). Tegumen with a pair of large boot-shaped processes sublaterally (so-called unci). Socius large, finger-shaped, setose. Valva oblong, basal opening large, with a triangular process on middle of sacculus. Cucullus oblong, setose on inner surface, with a tuft of 12–14 hooked thick setae (two of them long) on dorsal angle and a long process on ventral angle. Aedeagus cone-shaped, with 19–22 deciduous cornuti.



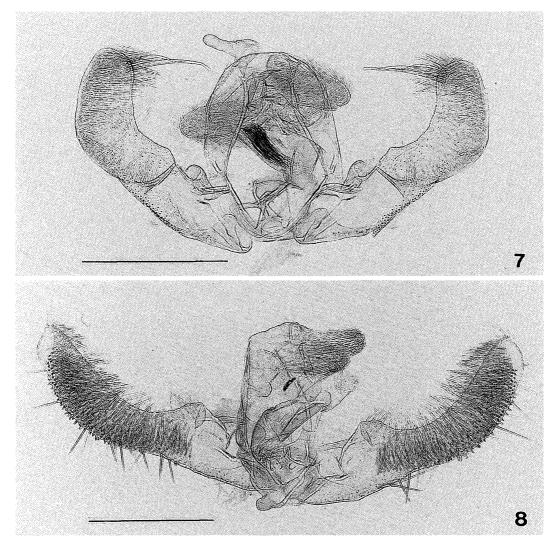
Figs 5-6. Male genitalia. 5. *Bactra* (*Chiloides*) *cerata* (Meyrick), YN-892. 6. *Eucosma lacteana* (Treitschke), YN-74 (scales=0.5mm).

Female. Wing expanse 10–12 mm. Similar to male.

Female genitalia (Fig. 11). Papilla analis large, flat. Apophysis posterioris as long as apophysis anterioris. Ostium bursae triangular, located in an incision on posterior edge of sternite 7. Sternite 7 broadly sclerotized in square. Ductus bursae with a narrow sclerotized ring on posterior 1/3. Corpus bursae globular, with a large bifid sclerite on posterior part. Signa consisting of two small horn-shaped sclerites, located posteriorly.

Material examined. Holotype. \Im , JAPAN. Honshu: Nara Pref.: Mt Takatori-yama, 12. VII. 1991 (Y. Nasu leg.), genitalia slide YN-873, UOP. Paratypes. Honshu: Nara Pref.: Mt Takatori-yama, 1 \Im 3 \Im , 12. VII. 1991 (Y. Nasu leg.), 1 \Im , 20. VII. 1991 (Y. Nasu leg.). Hyogo Pref.: Mt Futatabi-san, 1 \Im , em. 29. IX. 1976 (F. Komai leg.), reared from larva on fruit of *Ilex pedunculosa*, FK, 1 \Im 1 \Im , em. 2. X. 1976 (F. Komai leg.), reared from larvae on fruits of *I. pedunculosa*, FK; Sanda, 1 \Im 1 \Im , 16. VII. 1976 (F. Komai leg.), FK. Wakayama Pref.: Hashimoto, 1 \Im , 22. VI. 1990 (Y. Nasu leg.).

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Figs 7-8. Male genitalia. 7. *Rhopobota okui* Nasu, n. sp., holotype, YN-873. 8. *Parepisimia catharota* (Meyrick), YN-898 (scales=0.5 mm).

Distribution. Japan (Honshu).

Host-plant. Aquifoliaceae: Ilex pedunculosa Miq.

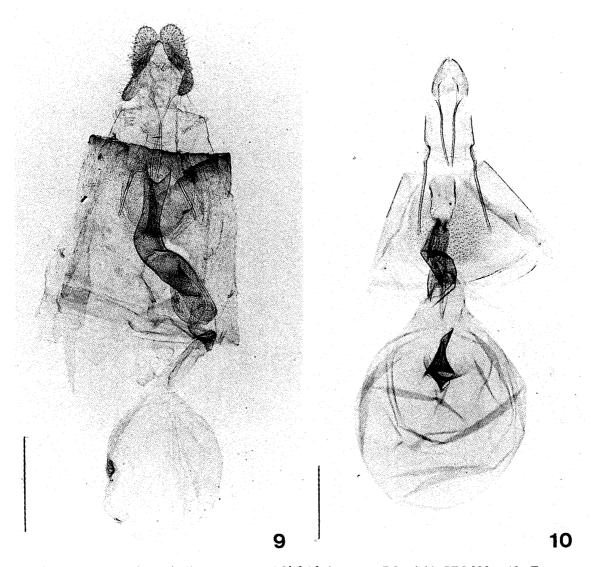
Biological note. The larva feeds on the fruit of *Ilex pedunculosa*. Judging from the collecting data of adults, this moth may be bivoltine (adults: late June to July, late September to early October), and the larva may eat also the young leaves of the host instead of fruits in June.

Etymology. This species is named in honor of Dr T. Oku.

Parepisimia catharota (Meyrick) (Figs 4, 8)

Statherotis catharota Meyrick, 1928, Exot. Microlepid. 3: 443; Clarke, 1958: 595, pl. 296, figs 3-3a (adult, genitalia).

Parepisimia catharota: Diakonoff, 1975: 306 (as catherota, missp.); Kawabe, 1989: 61, fig. 95 (adult); Kawabe et al., 1992: 108.



Figs 9-10. Female genitalia. 9. Bactra (Chiloides) cerata (Meyrick), YN-893. 10. Eucosma lacteana (Treitschke), YN-75 (scales=0.5 mm).

Diagnosis. This species has a blackish brown forewing with a large yellow-brown median fascia and triangular costal patch on apical 1/3 of costa (wing expanse 12 mm) (Fig. 4). This moth is superficially similar to *P. relapsa* (Meyrick, 1928), but differs from it in having the median fascia of same width throughout, smaller triangular costal patch before apex (in *relapsa* enlarged in large patch, to tornus), and valva with broader cucullus and costa without process in the male genitalia (Fig. 8). The species of *Parepisimia* sometimes have androconial or long hair-like scales at the costal area on upper surface in the male hindwing (Diakonoff, 1973), and this species has a long hair-pencil at that place.

Material examined. JAPAN. Ryukyu: Okinawa Pref.: Ishigaki I., Mt Omoto-dake, 1 ♂, 9. V. 1978 (Y. Arita leg.), 1 ♂, 8. V. 1998 (T. Ueda leg.); Itona, 1 ♂, 10. V. 1998 (T. Ueda leg.).

Distribution. Andaman Is, Thailand, Taiwan, Japan (Ryukyu). New to Japan. Host-plant. Unknown.

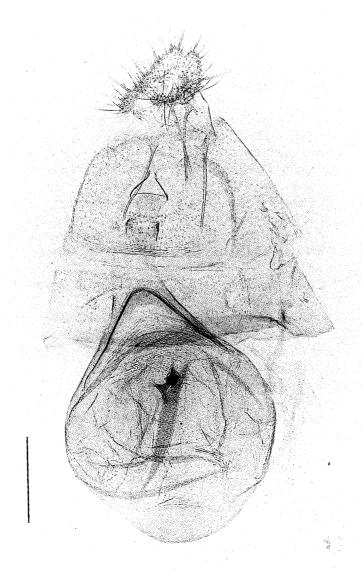


Fig. 11. Female genitalia. 11. *Rhopobota okui* Nasu, n. sp., paratype, YN-874 (scale=0.5 mm).

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摘 要

日本産ヒメハマキガ (鱗翅目、ハマキガ科) の1新種と3新記録種 (那須義次)

Bactra (Chiloides) cerata (Meyrick) キモンヒメハマキ (新称)

前翅開張 10-12 mm. 前翅の地色は灰褐色, 基部から 2/3 の間に 3-4 個の黄褐色の斑紋がある (まれに不明瞭) ことで, 同属の他の種と識別は容易である. 分布: インド (アッサム), スリランカ, タイ,ベトナム, 小スンダ列島, フィジー,パラオ諸島, 西南ニューギニア,台湾,日本 (本州,九州,琉球). 日本新記録. 寄主植物: 不明.

Eucosma lacteana (Treitschke) ホソバシロヒメハマキ (新称)

前翅開張 12-14 mm. *E. metzneriana* (Treitschke) トビモンシロヒメハマキに外部表徴では類似するが、より前翅が細く、小さいこと、斑紋が不明瞭なこと、雄交尾器の uncus が 3 角形であること、valva のくびれ部 (neck) が狭いこと、雌交尾器の lamella postvaginalis が長方形であることで識別できる。分布: ヨーロッパ、ロシア、モンゴル、日本(北海道)。日本新記録。寄主植物: キク科: ヨモギ属の種。日本ではヨモギの花序から飼育されている。

Rhopobota okui Nasu (新種) ソヨゴチビヒメハマキ (新称)

前翅開張 9-12 mm. 外部表徴では R. kaempferiana (Oku) ヤマツツジマダラヒメハマキに類似するが、より前翅が小さいこと、中帯がより広いこと、肛上紋が白っぽいことで識別できる. 雌雄交尾器での識別は容易である. 分布: 日本 (本州). 寄主植物: モチノキ科: ソヨゴ (果実).

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Yoshitsugu Nasu

Parepisimia catharota (Meyrick) ミナミキオビヒメハマキ (新称)

前翅開張 12 mm. 本種は近縁種の *P. relapsa* (Meyrick) に類似するが、中帯が同幅であること、前縁 翅頂近くの三角紋が小さいこと、雄交尾器では幅広い cucullus を持つこと、valva の costa に突起を持たないことで識別できる. 分布: アンダマン諸島、タイ、台湾、日本(琉球). 日本新記録. 寄主植物: 不明.

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